1: Bowen-Jones et al. K-5 (1955-1958) 1961
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Within the clay, rounded grains of quartz, augite, felspars and tourmaline have been recorded (Cooke 1893) and the fossils include pectens and *Aturia aturi*. These are of pelagic habit and similar to those typical of the true 'schlier' facies. 133

4. Greensand

The greensand is a coarse, orange-brown, thick bedded fragmental limestone which usually forms the base to the Upper Coralline Limestone cliffs. In the unweathered state an abundance of glauconite gives the rock a green colour. The thickness reaches a maximum of 50 feet in south-west Malta but it is usually about half this figure. In other places the formation is absent. The boundary with the Blue Clay below is very abrupt and, around the coasts, landslips commonly begin there. The upper boundary is often more difficult to define.

Frequently the rock is full of giant Foraminifera and has been termed a 'Heterostegina Rock' (Murray, 1890). Such developments are common on Gozo and near Dingli, Malta (4468). The formation has yielded a very rich echinoid fauna including *Clypeaster*, *Heteroclypeus* and *Echinolampas* together with shark teeth and the remains of dugongs, manatees, dolphins and whales.

5. Upper Coralline Limestone

This is the youngest Tertiary formation in the islands. Generally it caps the highest hills but, especially in northern Malta, faults bring it down to sea level. On Comino a thickness of some 250 feet is exposed and 530 feet was penetrated in a borehole near the centre of the Binġemma Syncline (4374) without reaching the bottom. Usually only about 100 feet is preserved on the high land. The rock varies considerably. Frequently it is composed of large growths of the coralline alga *Lithothamnium* with marly partings between the growths. In places it is a dense crystalline limestone and elsewhere there are thick marly seams rich in fossils. Compact limestone predominates, however, and it is usually poorly bedded. On Gozo the stone has been quarried as 'Gozo Marble' which is hard, red to yellow in colour and taking a good polish. Petrologically the formation is very similar to the Leithakalke of the Vienna Basin with which it has been correlated (Fuchs 1874). [316]

Fossils other than algae are locally abundant and they include the echinoids *Cidaris*, *Clypeaster*, *Schizaster*, *Echinus*, *Brissus* and *Echinolampas* together with abundant Foraminifera and large mollusca.

PLEISTOCENE AND RECENT DEPOSITS

These deposits may be conveniently divided into first, the valley loams and sands, second, the coastal conglomerates and breccias, third, the bone deposits in caves and fissures and finally the prehistoric remains.

The only widespread areas of valley deposits with stratified sands, loams and gravels of fluviatile origin are in the valley areas behind Mellieħa, St. Paul's, and Salina Bays.

Conglomerates and coastal breccias, often with Pleistocene Mollusca, occur in small patches around the Marfa Ridge, St. Paul's Bay, Mellieħa Bay, Għar Lapsi, Benghisa Point (5863) and St. Thomas Bay (6067). They usually form a moderately cemented rock composed of local material (Trechman 1936).

The Pleistocene ossiferous deposits, filling caves and fissures in the limestones, have yielded numerous interesting animal remains. The Għar Dalam Cave (5765) is the most celebrated but there are others at Qrendi, Żebbuġ, Mellieħa and Malak. The oldest faunas include Pleistocene dwarf hippopotami, pygmy elephants, dormice and swans and a later deposit has horse and deer.

Stone Age remains include 15 temples, the best of which is perhaps Tarxien, Malta (5669) which has provided vessels and amulets as well as statuettes of grotesquely fat divinities (Zammit 1930), but others are very fine, especially Ħaġar Qim, Malta (4965) and Ġgantija, Gozo (3489). There is also a three-storied Hypogeum at Pawla. The complex system of cart tracks, with cross roads and junctions, are probably also of neolithic age. A detailed cultural sequence based on potsherds has recently been described by Evans (1954, 1959). 172

133 Valletta which gives way, in the extreme south-east, to southerly dips. The only important dislocation is the Malak Fault at Ghar Lapsi which strikes NW and downthrows south-west at least 800 feet.

The westerly structural low brings the top of the Lower Coralline Limestone less than 100 feet above sea level between Qlejgħa (4072) and Baħrija (4171). But the region is very much complicated by shallow folds and faults. There is a general structural rise to the south-east, however, and this culminates near ta'Żuta (4566) where the top of the Lower Coralline Limestone is over 300 feet above sea level.

The main north-south anticlinal belt through central Malta was first recognised by Sir Edward Bailey. It is not, however, a simple ridge but forms several upwarps. The main domes are around Naxxar (4974), near Żebbuġ (4970) and north-east of Ghar Lapsi (4865). The first and last of these domes brings the top of the Globigerina Limestone over 400 feet above sea level.

The broad Valletta basin which centres on the Grand Harbour must carry the top of the Lower Coralline Limestone a few hundred feet below sea level. To the north the structures rise to give the outcrops of Lower Coralline Limestone north of Sliema (5574) and to the west they rise towards the central anticlinal belt. To the south-west the rise culminates near Żurrieq (5265) and to the south, after rising to give the Lower Coralline Limestone inliers near Żabbar (5870) and Kospikwa (5771) the strata dip regularly to the south-east. Younger and younger strata are therefore regularly exposed in that direction and the highest beds, the Upper Globigerina Limestone, crop out on the peninsula of Delimara Point (6064).

The Malak Fault at Ghar Lapsi (4864) downthrows the Upper Coralline Limestone at least 800 feet to seaward. The fault strikes NW and forms a conjugate association with the more usual NE or ENE striking faults. The fault plane is well exposed, and dips steeply seaward. The fault between Ta Berwiek (4864) and Deub il-Bagdal (4964) is double, enclosing a thick sliver of Globigerina Limestone.

The Age of the Faulting

The faults of the islands form prominent scarp faces and in many cases the actual fault planes show up as walls marked with original slickensiding. This suggests that the faulting must be quite recent. Indeed, Pleistocene Mollusca have been recorded in a crushed conglomerate caught up in the Malak Fault. [172] The neolithic cart tracks which enter the sea at St. George's Bay, Birżebbuġa and other places show that there has been even more recent movement of the islands.

114 This account is based in part upon a field survey of Malta and Gozo carried out at the expense of British Petroleum Company Ltd., in March-April, 1955. The geologists engaged in the work, in addition to the authors, were Dr. M. H. P. Bott and Dr. A. A. Wilson, also of the Durham Colleges' Geology Department. The authors acknowledge their indebtedness to the Directors of the Company for permission to publish this summary. In addition visits were made in 1958 and 1960.

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1: Bowen-Jones et al. K-5 (1955-1958) 1961
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Plate VII. Upper Coralline Plateau.
"Cart ruts" on karstic wasteland. Man-made fields, some now abandoned, superimposed.

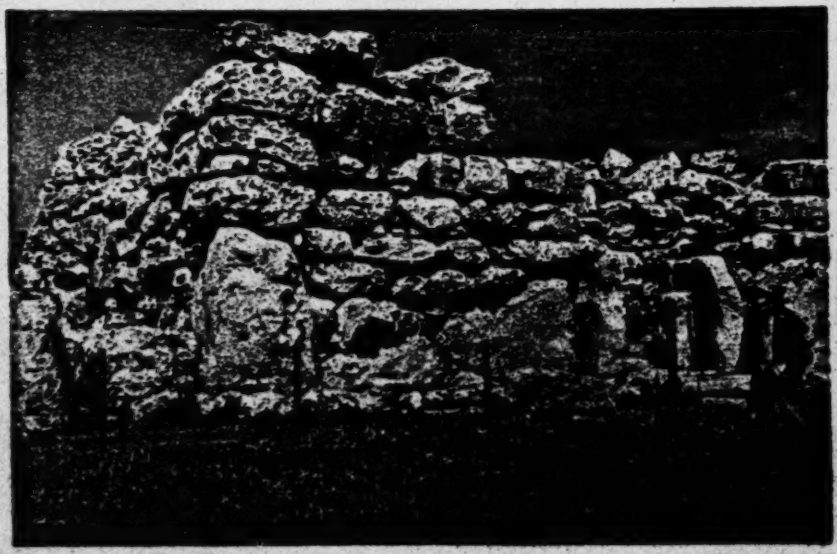

Plate VIII. Ggantija.

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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[P.103]

Chapter IV

MALTA BEFORE A.D. 1800

A. Malta before the Knights

The Maltese Islands were probably first settled towards the end of the third millenium B.C.; certainly there is no evidence of any earlier occupation. From this time onwards, the landscape has had stamped upon it the successive imprints of a series of cultures and culture-contacts. This is not the place to attempt a detailed analytical history, but any study of a region and its people must consider time as well as place. In Malta we have, in the course of our fieldwork, continually felt an extraordinarily strong sense of continuity, an insistence that much which is contemporary can only be understood in terms of the past, and often of the remote past. Conversely, a close examination of the landscape can help to illuminate the past in a strictly historical sense.

The sort of question which arises in an investigation of the rural landscape may be exemplified by the much-debated problem of 'cart-ruts'. On some of the expanses of bare rock which exist in various parts of the island of Malta are deeply incised grooves, in dual and parallel alignment, sometimes in isolation, often in complex 'tramway' patterns (Plate VII). Various attempts have been made to explain them (1) but with little success. We are certain only of their approximate age. To the prehistorian they are of obvious direct interest. To ourselves they are irritatingly fascinating because of the indirect and obscure evidence which they seem to offer of the nature of the processes which have operated on the land of Malta. Were they friction-incised through a soil cover by skid-carts? If this is so, then the soil cover must not only have been more extensive than at present but must also have evolved under different climatic and edaphic conditions from those with which we are now familiar. What can we deduce from the present limited exposure of the ruts and from the fact that often they appear to have been blotted out by cultivation? The traditional answer, as put forward by Zammit (2), is that they carried sledges for the collection and transport of soil so that man could concentrate the soil in field plots. Thus field-making inevitably covered the ruts except on the ridges and bluffs. There are defects in these and other explanations, none of which come near to helping us to estimate the number and kind of people involved.

The settlements, too, present problems. Thus the archaeologist: 'The curious and complete absence of settlement-sites throughout the prehistoric period, which also holds good for the Punic and later periods, seems susceptible of only one explanation. The best sites must have been chosen for settlement very early in the islands' occupation and these have remained centres of habitation until the present day' (3). May we then assume that, with the exception of the 'lost villages' of more recent times, the settlement pattern of today results from continual addition to, and an absence of erasures from the palimpsest? The answer is not only of chronological interest but has an essential place in any analysis of present-day Malta.

For such reasons as these we have attempted in this section to give a time perspective to the Maltese picture in order to help our present understanding.

The first Maltese would seem to have been Neolithic farmers using impressed ceramic ware of a type associated with the *Stentinello* culture of eastern Sicily. The stylistically earliest wares of Ghar Dalam (I) (Fig. 29) are associated with megalithic temples already well enough developed to have lost their original tomb character and to have become cult centres. These and later temples, built during the eight centuries before c. 1500 B.C. (Period I), are impressive and surviving contributions to the landscape by the first Neolithic people. Megalithic rock-tombs have been found at Xemxija and probably from this type of structure there evolved five distinct and successive phases of temple architecture. The earliest are those of Mġarr (II) and Xewkija (III) with a simple

1: Bowen-Jones e. al. K-5 (1955-1958) 1961
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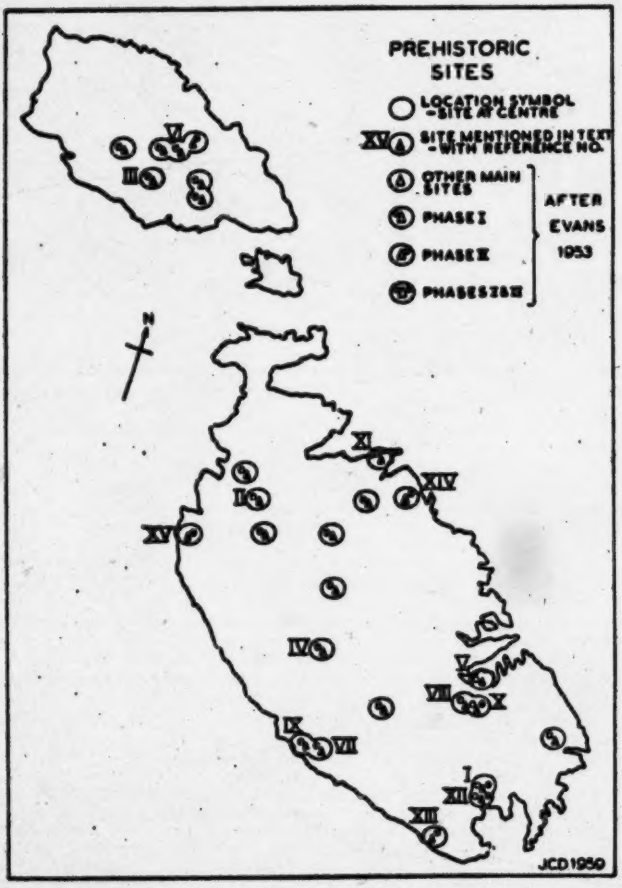

Fig. 29 Prehistoric Sites.

clover-leaf plan of shrine and forecourts, associated with 'cut-out' styled ware also with *Stentinello* affiliations. By a little after 2000 B.C., a late Mgarr temple type had evolved contemporaneously with pottery of a more individual style as found in the Żebbug tombs (IV). In the latter, red ochre and flint have also been found, both imported from the Sicily-Lipari region. At Kordin (V) (Corradino), a more highly developed temple was built with embryonic apses opening off the centre court and in G.. .o, at Ġgantija (VI), an early gigantic trefoil was further developed in this form (Plate VIII). At Ġgantija and Hagar Qim (VII) a penultimate stage foreshadowed the later climacteric. The buildings and individual stones became of immense size and, for the first time, the softer

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

Globigerina stone was used for the inferior walls while the exterior remained of Upper Coralline. The Globigerina slabs were finely dressed and show the beginnings of ornamentation which was already being exuberantly applied to pigmented wares. Piggott (4) has maintained that, in this fourth phase of temple-building, in ceramic development and in the Hal Saflieni Hypogeum (VIII) (an underground ossuary), the Maltese tradition achieved its most characteristic individuality. Finely-worked flints and shell ornaments, known since the Żebbuġ phase, continued in use. The simple representational art in clay and bone, characteristic of the earliest period, evolved through the 'Statue-Menhir' of Żebbuġ to the fine figurines of this penultimate period (5). The 'scratched' decoration, so different from the painted wares of the Aegean entering Sicily, in particular emphasise the 'mysterious isolation and insularity' of Malta during this period. Evans (6) suggests that 'The Islands remained, as they were to do once more when the Greeks colonised the same areas of Sicily a millenium later, unaffected by this movement of Aegean peoples'.

At some time between 1700 and 1500 B.C. this culture, which had become indigenously rooted, reached its final flowering as a result of contacts with Cycladic and Mycenean cultures. The Mnajdra temple (IX) and those of Tarxien (X), the finest parts of the underground Hypogeum at Hal Saflieni, together with important but lesser works such as those at Bugibba (XI) reflect high aesthetic standards, great technical skill and considerable wealth. Spirally carved decorations, animal friezes in low relief and sophisticated modelling and sculpture embellished the shrines of an unknown religion. 'The finesse, the elaboration and sophistication... reflect a correspondingly unique development of ritual and liturgy... There are hints of divination and of oracular chambers, as well as the practice of ritual sleeping... to obtain visions; and the litter of broken pottery must come from offering bowls and the like; there are the statues of the mother-goddess. For 500 years at least, in the early second millenium B.C., Malta and Gozo must have counted as the most magic and potent island sanctuaries of the central Mediterranean world' (7).

As we have already noted, the settlements of these life-death worshippers have not been found and we can only assume that most of them must lie beneath the inhabited 'tells' of today. The early wares and the temples suggest for these people a remote origin in Western Asia. We know that, although some metal tools may have been used at a late date, they depended mainly on imported flint and obsidian and on local chert for implement making. The size and complexity of their shrines suggest that there must have been a large group of specialist masons and builders. These could have been supported either by an improbably numerous population capable of agricultural productivity of an unique intensity for the period or because Malta, even then, was the recipient of outside wealth. These early inhabitants wove cloth, carved in bone and ivory and practised inhumation and collective ossuary burial. Quite suddenly, about 1500 B.C., this culture, of which we know so little, was swept away by invaders.

Probably from southern Italy, possibly before that from Greece and Asia Minor, came a second culture and a people in all respects alien to the Period I settlers. Our knowledge of them is even more fragmentary than of their predecessors. The old cult centres and temples were generally ignored but that of Tarxien became a cremation cemetery, while Borġ in-Nadur (XII) became a fortified settlement site. In a cairn at Wied Moqbal (XIII) and in several small dolmens, as at ta'Hammut (XIV) pebble-burnished coarse slipware of the Tarxien Cemetery type has also been found. Metal objects, tools and weapons attest to the metal-using character of the newcomers. Before they became properly established, a second wave of kindred people would seem to have conquered the Islands. Borġ in-Nadur was re-occupied and strengthened as a fortress. The people of Period IIB possessed copper and bronze and, like their predecessors, looms of a primitive sort.

The final phase of Period II is represented by finds from the settlement site at Baħrija (XV) which suggests South Italian Iron Age influence on an indigenously rooted culture. Probably between 1200 and 800 B.C. the cart ruts made their first appearance, while rock tombs of the period are still being found in pro-

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

fusion. Like their predecessors, the temple-builders, the Maltese of Period II represent one cul-de-sac ending 'of a gradual and infinitely complex movement of people and cultural elements from the Eastern to the Central Mediterranean' (8). The culture of Period I was probably erased in all forms but the monumental; the second probably persisted until Semitic contact was made with the Islands some time between the eighth and sixth centuries B.C.

Much has been speculated, though remarkably little is known, concerning the Phoenicians in Malta. As evidence one can only offer a few inscriptions found in various parts of the island, and characteristically Punic forms of burial which seem to have persisted down to the Roman occupation. The Phoenicians were once given credit for the great megalithic monuments and, until recently, it was fashionable to give them credit for the Maltese language as well. During the last 40 years, archaeological, linguistic and, to some extent, anthropometric advances in knowledge have changed the picture. Phoenicians and, later, Carthaginians may have come as traders but it is difficult to imagine that the Islands could have been anything more than transit points on shipping routes. Semitic settlers and administrators may have imposed an organised domination over Malta and Gozo: Mdina at least has produced pottery of Period I, Period II, Punic, Roman and later styles and, as already noted, Punic type rock tombs are numerous. Nevertheless, during the period of Greco-Punic rivalry in the Central Mediterranean, there is no certain Greek reference to Malta, whereas accounts such as that of Thucydides (Book VI) give detailed statements of all the important points held by 'the enemy'. Linguistically it may be feasible to consider that the Semitic structure and content of the Maltese language may have pre-Islamic elements but it is neither correct nor necessary to invoke a Punic conquest to account for this. The anthropological work of Buxton and Bradley (9) has but limited general value because of the difficulty of dating the prehistoric human remains (largely cranial). Even so, there is no supporting evidence for a Phoenician and/or Carthaginian colonisation.

All we know for certain is that, during the second century B.C., Rome, triumphant over Carthage, assumed political control in the Maltese Islands. The Islands were made part of the Praetorship of Sicily and, later, first Malta, and then Gozo were given 'Municipium' status. Direct evidence of conditions in Malta even during this, the first historical period, is fragmentary. Strabo mentions Malta and Gozo in terms of position, Livy and Ovid are scarcely more helpful. Cicero is a little more illuminating in his oration against Varres, once Praetor of Sicily, who was accused of abusing his position: '... what could you want with so much Maltese cloth, as if you were going to dress all your friends' wives?' Diodorus Siculus records that 'Melite' possessed many 'harbours', that its artisans were cunning weavers of linen and that the houses were architecturally worthy of note. He also believed that Malta was a Punic-planted colony and was already accruing wealth from sea trade. The Bible tells us nothing beyond the fact that St. Paul was shipwrecked on 'Melita' in A.D. 60 and spent some time thereafter in the island.

Archaeological evidence is scarcely more helpful, limited as it is to a few inscriptions, coins and parts of buildings in pre-existing settlements such as Rabat and Żurrieq. What we do know of the Roman period is, however, of some importance. It seems likely that Malta had long lain on the orbital fringe of a Siculo-Aegean culture zone and had probably been affected by Mycenean and Punic contacts. Henceforth, with one short break, the Islands occupied a place in the political and cultural organisation first of Rome and Byzantium and then of Christendom. For some five centuries, it seems reasonably to assume, the Maltese Islands were an organic part of Roman town-centred civilisation. After the Gothic and Vandal irruptions broke the unity of the Western Mediterranean the Justinian reconquest of Sicily may have included Malta or may merely have improved the regional stability around an isolated outpost of Roman culture in Malta. Again we do not know. During the long decline of Rome and the new territorial adjustments which preceded the rise of Islam, there is no direct evidence but only conjecture on the fate of Malta.

3: Buxton D-5 (1920-1921) 1922 EZ6 Malta EZ6

The fortified towns and suburbs, apart from Rabato, form a practically continuous inhabited area. The population, especially in the suburbs, is extremely overcrowded. The country villages are irregularly built along a series of winding lanes, which converge on an open space not infrequently situated in front of the village church. In a corner of such a *piazza* there is usually a café, and it is here that the majority of measurements of the country people were taken, very often as the men came out of Mass on Sunday. Some of the villages have orange gardens, wherever there is sufficient water to spare for irrigation purposes.

Although with modern means of transport it is possible to visit practically the whole island in one day, many of the villages are nearly endogamous, in spite of the absence of geographical boundaries. The men of one village will certainly not seek their wives from a neighbouring village. If they marry outside their own hamlet, it will probably be with a girl from the suburban area. Similarly, many of the town dwellers find wives among the daughters of the country folk. No such distinctions appear to hold in the urban districts. Communications within this latter area are good and cheap, and extensive use of them appears to be made by the whole population.

III.—History.

The ethnological history of the archipelago is not as yet very clear, and further evidence is badly needed. A very interesting cave, usually known as Ghar Dalam, has been excavated by Mr. Despott, to whom I am indebted for permission to examine his finds and his MS. notes. The valley (the Wied Dalam) in which this cave is situated, shows signs of three terraces. The earliest terrace is high above the present level of the stream, which runs on the level of the old second terrace, and the third terrace, on a still lower level, is in most places filled up by *débris*, brought down by the present stream or its immediate predecessor. The second terrace appears to belong to two different periods, as there are in places marks on the rock of undercutting by the swirling of a stream at two very different levels. The river which cut out these terraces must, at least in flood time, have contained a considerable volume of water. The modern stream is, however, even at the wettest time, hardly more than a series of disconnected pools. The Ghar Dalam cave belongs to the earlier part of the second terrace. It contained numerous sherds, mostly Bronze Age. By far the greater part of the cave, however, was filled up with a very large number of bones, the majority of which belonged to a species of pygmy hippopotamus. These bones, and even the teeth, show considerable evidence of attrition by water.

In this fossil bed Mr. Despott claims to have discovered the remains of Neandertal man. All the human remains that have been found consist of very small fragments, and apart from one tooth, there is no evidence to show that these bones really belong to Neandertal man. The tooth is a molar exhibiting unusual characters, but in the absence of X-ray photographs or a section, and comparison with

3: Buxton D-5 (1920-1921) 1922 EZ6 Malta EZ6

114 172 authenticated material, it is hardly possible to state definitely that Neandertal man was living in Malta at the time when the rivers were large and the pygmy hippopotamus abundant. It is further remarkable that in a deposit which appears to be admirably suited for the preservation of bones, only small fragments of man have been found. In such a dry climate as that of Malta, cracks may have occurred in the floor of a cave, down which tiny fragments of bones may easily have fallen. There are some gravel terraces in the neighbourhood of Zebbug, which should certainly be explored for traces of Palæolithic man in the island.

172 The peculiar form of the Maltese sanctuaries has been discussed with great wealth of detail by Professor Zammit, with special reference to the site at Hal Tarxien. He is inclined to believe that they belong to the Neolithic period. There is certainly an entire absence of metal in the "Neolithic" stratum, and the stone masonry has not been worked with metal tools. The development of pottery, however, suggests a Late Neolithic or even an Eneolithic stage, not improbably of comparatively late date. There is considerable evidence to suggest that the buildings were extremely holy places, and there are numerous parallel examples from other parts of the Mediterranean which indicate that under certain conditions metal, or at a later date iron, was tabu in particular sanctuaries. We know nothing at present about the domestic culture of these megalith builders, and it is unsafe to argue from their sanctuaries that they were unacquainted with the use of bronze. The period may be provisionally termed "Malta Local Neolithic."

Although the majority of the material found at Hal Saflieni[1] is Neolithic, a number of undoubtedly Bronze Age wares of coarse types, and fragments of large vessels similar to the cremation urns of the Hal Tarxien Bronze Age period were found there. In spite of the very large number of bones which I examined, however, I did not find any definite traces of cremation; and with such evidence as I possess at present, I think it is justifiable to conclude that we are dealing with material anterior to the Bronze Age at Hal Tarxien, *i.e.* belonging to the Malta Local Neolithic period. Some bodies were undoubtedly buried *in situ*, but the majority appear to have been brought there, possibly from various parts of the island; probably they were exhumed and stored in the Hypogæum. The fractures on many of the bones and the comparative absence of complete long bones, suggests exhumation, a practice still widely distributed in the Mediterranean.

The very close resemblance between the incised "Neolithic" ware from Hal Tarxien and that from Santa Verna in Gozo, suggests that at this time there must

[1] The Hypogæum at Hal Saflieni consists of a series of artificial cavrs hollowed out underground. In addition to numerous small objects, statuettes and sherds, these cavrs contained a very large number of human bones. The carvings, which are dolmenic in form, and the spirals in red ochre on the roof, have inclined Professor Zammit to believe that this is a sanctuary. Whatever its true purpose, the Hypogæum certainly forms an extensive ossuary of "Malta Local Neolithic" material.

3: Buxton D-5 (1920-1921) 1922 EZ6 Malta EZ6

have been considerable intercommunication at least between these two places and admits the possibility of some of the bones in the Hypogæum coming from a distance. 172

A careful examination was made of the bones found in the Neolithic stratum at Hal Tarxien. These were all, as far as could be made out, those of domestic animals, the ox and the sheep predominating.[1] A number were either calcined, or had the semi-calcined appearance of bones which had formed part of a roast joint. It seems reasonable to follow Professor Zammit's suggestion that a number of these bones were those of sacrificial animals. No trace of human bones was discovered in the stratum of this period at Hal Tarxien. The very big dust deposit which occurs on top of the Neolithic stratum suggests a rather dryer climate than occurs at present. If the climatic conditions had been similar throughout the ages, there appears to be no reason why such a deposit should not also have occurred at other times. Without laying undue stress on what must necessarily be a hazardous hypothesis, there are slight indications from osteological evidence, as we shall hope to show later, that there was a difference in climate at the time when Hal Tarxien was built and modern days.

The ground plan of Hal Tarxien and the other sanctuaries remains to be explained. Speaking generally, each sanctuary may be described as a series of three consecutive apses growing successively smaller. At the end of the third apse, in what appears to have been the holy place, there is usually a small dolmen-shaped cist, sometimes with a hole on top and in front. In such cists large numbers of animal bones have been found. It is suggested by Professor Myres that such a plan is the final outcome of the *allée couverte*.

The general dolmen-like features of a number of the recesses of some of the sanctuaries, and of the stonework in the Hypogæum at Hal Saflieni, together with the terra-cotta objects which have been found, suggest that the megalith builders were familiar with dolmens, of which there are examples in the island; and it seems just possible that in Maltese soil the structure, which elsewhere developed into the most elaborate form of chambered barrow, may have become the three-apsed shrine. It must be remembered that it would be impossible in Malta to build any form of barrow, owing to the absence of surface soil.

It is interesting to note that except for certain differences in the form of the nose, the people that we associate with the dolmen culture in Western Europe closely resemble the people buried in the Hypogæum at Hal Saflieni.

The human remains of Bronze Age date are unfortunately scanty, and are limited to calcined fragments from Hal Tarxien. The finds at Bahria, a site which has not yet been properly excavated, suggest a settlement of foreign immigrants to a place which, as the name implies, is one of the few spots in that part of the island where the sea is easy of access. This may have been the first introduction

[1] Some dogs' bones were found, possibly of doubtful antiquity.

3: Buxton D-5 (1920-1921) 1922 EZ6 Malta EZ6

172 of metals to the island. Bronze Age pottery is less highly finished than the Neolithic ware, but although the two are certainly distinct, there are transitional forms.

From an ethnological point of view it would appear that the Bronze Age, or the end of the Neolithic Age, was in many places a crucial period. It is difficult, however, to parallel this in Malta by linking up the osteological and the archæological material. As we shall hope to show later, the Megalithic people in Malta appear to be very distinct from the later inhabitants, and to present certain Armenoid characteristics. Sir Arthur Evans[1] has pointed out that there was a western colonial movement from the mainland of Greece towards the close of the period which he has termed Late Minoan III. There is evidence of such a movement in cemeteries near Syracuse. Up to the present, however, there is no evidence of Malta being connected with the East at so early a date. It has further been suggested that at some period in the early history of the island a complete destruction of the old population took place.

The sherds from Kallilia appear to be similar in fabric and design to those of the Hal Tarxien Bronze Age. During the so-called "Phœnician" period we have cultural evidence of connection with the Ægean and North Africa, and it would appear that then, if not earlier, the final shaping of the present population was taking place, and that the mixed "island people" of the Eastern Mediterranean were sufficiently firmly established to swamp any further immigration of invaders belonging to a pure Mediterranean strain.

[144] The Punic influence, though culturally no doubt of importance, does not seem to have altered the population physically, and though at this time the connection with North Africa was undoubtedly close, it was not sufficiently strong to counteract the change wrought by the sea rovers from the islands, and to restore a type similar to that of Neolithic times.

175 648 Until the Roman occupation at the end of the third century B.C. Malta appears to have been closely connected with North Africa. Rome held the islands as a military or semi-military outpost until nearly the end of the second century A.D. The period usually known as "Roman" in Malta should be more correctly described as Romano-Maltese; although Rome was the ruling power and much Roman culture was introduced, there are few references to Malta in Roman literature, and from an ethnological point of view the island was certainly working out its own salvation.

The archipelago was given practical autonomy and made a municipium about A.D. 177. On the division of the Empire, in A.D. 395, the islands were taken over by the Eastern Empire, to which they were certainly ethnologically akin. Invasions of barbarians may possibly have occurred, but when the Arabs captured the islands in 870 they found a Byzantine garrison in occupation. Robert of Sicily, with a

[1] "Prehistoric Tombs of Cnossos," *Archæologia*, LIX, p. 107.

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population as 20,000 in 1582. In 1632, 50,113 is given, and in 1667, 53,000. In 1741, 110,000 is the population, which is said to have increased to 114,000 in 1798. The figures for Malta and Gozo in 1826 are stated to be 119,736. But the first reliable figure is 115,945 in 1828. In 1881 the population was 132,129 in Malta and 17,653 in Gozo; in 1901, 184,742, and 1911, 211,564.

In regard to the proportion of the sexes there were in 1911 110 bachelors to 100 spinsters, 98 husbands to 100 wives, and 44 widowers to 100 widows. In round thousands, the males over 5 years of age were engaged in the following occupations: 7 in professional, 2 domestic, 19 commercial, 12 agricultural, 21 industrial, and 31 were unproductive and unoccupied; the last figure is rather misleading as it includes at least four separate classes—children, aged, people of independent income, and incapables of all classes. The data in regard to foreigners is the most interesting for our purpose, as it gives an insight into the amount of mixture that is taking place. There were at the last census (1911) (31) 854 ♂ and 1,003 ♀ foreigners in the island. Of these 3 ♀ were English, the remainder were made up as follows: 77 ♂ and 45 ♀ from Africa (apart from 1 ♂ and 2 ♀, all these came from Egypt, Tripoli, Tunis and Algeria); 479 ♂ and 499 ♀ from Sicily; 156 ♂ and 253 ♀ from other parts of Italy; 36 ♂ and 39 ♀ came from Greece, and 11 ♂ were classified as Asiatics. This does not, of course, include the garrison, a large floating population of which the figures are uncertain, as they depend so much on the ships which happen to be in harbour at the time when the census is taken. The increase of population between 1828 and 1911 is of interest. That of Malta increased by 88·25 per cent. of the total, and that of Gozo by 45·31 per cent. The increase in Malta was nearly five times as great in the suburban area as in the other areas combined.[1]

The density per square mile in 1911 was 1884 (Malta 2167, and Gozo 879). The density in the south-east corner of Malta is, however, greater than would appear from these figures. If the island be divided along a line west of Gargur, Naxaro, Musta, Notabile, Rabato, Crendi, the areas east and west of such a line would be almost equal in size. The eastern area, however, contained in 1911 183,132 inhabitants, and the western 5737. Practically all the Neolithic remains occur in the eastern area, suggesting that the centres of population have not changed appreciably since Neolithic times.

V.—Material and Methods.

The skeletal material examined is conveniently grouped in four series: (i) Bones from the Hypogæum at Hal Saflieni (Malta Local Neolithic); (ii) Miscellaneous ancient skeletons, chiefly Romano-Maltese; (iii) Specimens from the Chapel of Bones (Late Mediæval); (iv) Modern bones. Only in case (ii) were any complete skeletons available.

[1] Since this article was written the results of the Census of 1921 have become available. They are as follows:—Malta, 180,607 (92,127 ♂, 97,570 ♀); Gozo, 22,561 (10,618 ♂, 11,943 ♀). Total for the two islands, 213,258, an increase of only 694 since 1911, as against 20,822 in the previous decade.

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126 141 172 (i) The Hal Saflieni bones (whose antiquity we have already discussed) are in a very bad condition; few long bones are complete. After sorting through several tons of fragments, measurements were taken on such bones as were sufficiently well preserved. A number of astragali were brought to England for more detailed examination later. The Hal Saflieni crania, which had previously been examined by Bradley, were re-measured.

(ii) There are in the Museum of Valletta and in the Roman villa at Notabilo a small series of ancient skulls and some complete skeletons, most of which were excavated by Dr. Zammit. These can be exactly dated by archæological evidence, but are unfortunately too few to warrant the drawing of any definite conclusions.

126 141 (iii) The Chapel of Bones is a large, fantastically arranged ossuary. It is alleged to contain the bones of patients dying in the hospital of the Knights of St. John, and probably dates from the seventeenth and eighteenth centuries. There are several remarkable features about these bones, first the number of aged persons represented, suggesting generally the type of population which finds its way into the casual ward of a modern institution, secondly the almost entire absence of the female sex; among 500 skulls selected at random, about 8 per cent. only were sexed as ♂?, ♀?, or ♀; these have not been included in the final count. It is, of course, quite possible that the number of female skulls is even less, but there was an orphanage attached to the hospital, and some children's bones were found in the ossuary, which may contain a few bones of nuns. The method of selection—for the number of bones is very great—was as follows: The skulls are arranged on shelves, and any skull without a basion was rejected, otherwise no selection was made; long bones were picked out where the epiphyses were sufficiently well preserved for measurement. Unfortunately the person who arranged the ossuary mixed up all the bones, and wired the wrong mandibles on to the crania. Although, therefore, as a whole, the bones belong to the same series of persons, the association of particular long bones with each other, or of particular mandibles with skulls is impossible. The sexing was of the type that Professor Pearson terms "anatomical sexing." All the bones were removed to the Anatomical Department at Valletta, and measured there.

(iv) The modern bones are from an ossuary, and were set at my disposal by Dr. Busittel, who was kind enough to allow us to use a room in the Anatomy School at Valletta. As some of the bones were used for teaching purposes, it is possible that a slight selection has been made; but enquiry into the method of obtaining the material inclines one to the belief that on the whole they are chance specimens, and a number of skulls were actually examined *in situ*. Sexing presented again considerable difficulty; fortunately, however, in a number of cases they had not been properly macerated.

141 125 In measuring the living it was necessary to find such as would submit themselves to examination; as far as possible, however, typical Maltese were taken. The

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being, if I = 100 A/B be an index, then a good approximation is arrived at by the formula

$$r = \frac{V_A^2 + V_B^2 - V_I^2}{2V_A V_B}.$$

To take an actual example, the correlation between the head length and the head breadth of the females from the urban districts is arrived at as follows:—The data are, Coefficient of variation, G.O.L. 3·44 and G.B. 3·78, and C.I. 4·05. The correlation will therefore be arrived at by adding $(3·44)^2$ to $(3·78)^2$, subtracting $(4·05)^2$ from the result, and dividing the whole by 3·44, multiplied by 3·78 multiplied by 2. The answer in this case is 0·3750.

The following measurements were made on the mandible:—

Coronoid height.	Breadth of ascending ramus, called for brevity ramus breadth.
Condylar height.	
Sigmoid height.	Condylo-symphysial length.
Symphysial height.	Bicondylar breadth.

In the Chapel of Bones measurements on the mandible were taken on both left and right sides, and the constants were worked out separately. In the case of the other fragments it was seldom possible to measure more than one side, and as the measurements in the Chapel of Bones showed how extremely close the dimensions on the two sides were, side has been disregarded elsewhere.

Only one index has been calculated, namely, the mandibular index, that is to say, condylo-symphysial length multiplied by 100 and divided by bicondylar breadth.

VI.—Physical Anthropology.

Before discussing in detail the cranial measurements, it may be convenient briefly to state the general dimensions of the crania. The means of skulls vary from 179 to 188 mm. in glabello-occipital length, and the means of the living males from 185 to 188 mm. The mean breadths vary from 133 to 141 mm. on the crania, and 150 to 152 mm. on the living adult male. The cranial capacity, estimated from the glabello-occipital breadth, the greatest breadth, and the basi-bregmatic height multiplied together, the product being multiplied by 0·0003849 + 96, varies from 1390·6 in the case of the Neolithic, to 1437·9 in the case of the Romano-Maltese, the Mediæval skulls show a capacity, by this formula, of 1405·5, and the modern 1393·7. It is unwise, probably, to lay any stress on these figures.

The cephalic index varies from 71·4, the mean of the Neolithic crania to 79·0, the mean of the modern crania and the vertical index from 71·2 in the case of the Neolithic crania, to 75·0, the vertical index of the Mediæval crania.

The variations in the general dimensions of the crania are sufficient to warrant a more detailed enquiry into the development of racial history in Malta. A complete

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list of the measurements taken and, where the series is sufficiently large, of their variation, will be found in Appendix II, Table I.[A] This should be read in conjunction with the following pages, from which, in order to make the general gist of the argument clearer, figures have, as far as possible, been eliminated.

The evidence which is so far available for the detailed history of man's development in Malta in early times is exceedingly scanty, and no ancient remains can be treated statistically. Such remarks as occur in the next few paragraphs can only be considered as tentative. The cranial measurements available seem to suggest that the head form of the Maltese has grown consistently shorter, both absolutely and relatively, since the Neolithic Age. The head breadth is remarkably consistent from Romano-Maltese times onwards. The skulls from Hal Saflieni (Malta Local Neolithic), however, were extremely narrow, in great contrast to the modern crania. Living heads are 10 mm. longer than modern skulls among the males, in the females the difference is somewhat greater, but the modern series of female skulls is so very small that no reliance can be placed on it. Male heads are about 11 mm. broader than male skulls. The greater thickness of the scalp where the greatest head breadth is taken, may be accounted for by the influence of the temporal muscle.

The cephalic index appears to have increased continuously from the earliest times onwards, *pari passu* with the *decrease* in the glabello-occipital length. The index of the Romano-Maltese males is noticeably low, that of the females extremely high. This result is possibly due to the small numbers. There certainly seems to be a definite increase in the numerical value of the index from Mediæval times onward. The modern female crania are noticeably more brachycephalic than the modern male; indeed, there is a difference of 4 units, which closely parallels the difference between the Romano-Maltese male and female. This difference, although probably exaggerated by small numbers, appears to be based on some definite disparity. In Malta the living females are significantly more brachycephalic than the males. It is curious, however, that the Gozo males and females show no difference in their cephalic index. Probably in Gozo the male population is less disturbed than in Malta. The normal allowance of 2 units difference between the cephalic index of the living and the dead is borne out by comparing the modern Maltese heads and skulls.

The variations in head length and head breadth appear to be very similar in Mediæval and modern skulls, and equally as between crania and living people. Considerable stress should probably be laid on the fact that a large series of crania from a Late Mediæval ossuary (the Chapel of Bones) show practically the same degree of variation in their cephalic index as a chance collection from a modern ossuary, and as the modern inhabitants taken from all over the island.

The basi-nasal length appears to be consistently the same from Neolithic times onwards. This absence of change is of importance when we consider that the head length has undergone marked changes. It is probable, therefore, that the changes are taking place in the occipital region. A comparison of the contours of

[A] [see pp. 197-199.—Analyst]

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the skulls suggests that the Maltese, for some reason, are developing a more plano-occipital or Armenoid type of skull than their ancestors possessed. This change is not accompanied by any great difference in the basi-bregmatic height. Although there is a difference of 2 mm. between the height of the Mediæval and modern skulls, as measured from the basion to the bregma, the very great variation of that measurement among the modern skulls makes it doubtful whether we can lay any stress on so small a difference. It is true that the vertical index shows certain changes, but they may be ascribed rather to the change in head length than to a difference in height. The measurement of the minimum frontal diameter adds further weight to our suggestion, that the changes which are taking place in Maltese skulls are confined to the occipital region, as there is no difference between this measurement in the earliest and in modern skulls. The ophryo-occipital length appears to be always about 2 mm. shorter than the glabello-occipital length, suggesting that few if any changes have taken place in the ophryonic region.

Passing to the consideration of the measurements associated with the masticatory apparatus, the bizygomatic breadth is extremely small in the Neolithic crania, but the numbers are very few. The Late Mediæval crania from the Chapel of Bones are significantly greater than the modern skulls in this measurement, and also in the basi-alveolar length, whereas the Romano-Maltese seem to approach more closely in both measurements to the Mediæval than to the modern crania. This may be due to a harder diet.

The upper facial height in the Hal Saflieni (Malta Local Neolithic) material is similar to that of the Romano-Maltese, but the Mediæval crania have a significantly greater measurement than the modern. The facial breadth is small in the Hal Saflieni material, but the Mediæval skulls are significantly broader in the face than the modern. The upper facial index is very close to the same figure from Neolithic times onwards, except for the small series of Romano-Maltese skulls, which have a lower index.

Some of the above measurements are probably more affected by the respiratory apparatus than by the action of the jaw, although it has been convenient to consider them in the above paragraph. The same is, to a certain extent, true of the palatal measurements, one of which, the breadth, is certainly intimately correlated with the breadth of the nose. The palatal breadth appears to have been very small in Neolithic times—smaller than can quite be accounted for by the smaller nasal breadth—and it is possible that a rather enfeebled masticatory apparatus may be the predominant factor in this particular case. Otherwise the palatal breadth has remained more or less constant. Certain changes appear to have taken place in the palatal length. In spite of the unusual smallness of the palatal breadth, the mean palatal length happens to be the greatest recorded. It is quite possible that this is an illusory figure. It is interesting to note, however, that the palates of Mediæval Maltese are significantly longer than those of their modern successors. This is

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141 quite possibly due to the same causes as are at work in the case of the bizygomatic breadth.

172 Turning to the respiratory apparatus proper, the nasal breadth of the Neolithic people is rather narrower than that of the Romano-Maltese, but only six Neolithic crania were available for measurement. The Mediæval crania have practically the same breadth of nose as the Romano-Maltese. The modern examples from Valletta, however, have a significantly narrower nose. The nasal height shows no appreciable difference. The nasal index shows considerable variation, accompanied, as usual, by a high coefficient of variation. Under these circumstances it is difficult to argue about the actual changes since early times. It is possible, however, that the nasal index was slightly greater in ancient than in modern times. It is clear from the figures that the nasal index of the Mediæval Maltese was significantly greater than it is at present. This point is of special interest because if, as has been argued, a number of persons from Western Europe were represented in the ossuary of the hospital, we should have expected to find a narrower nose, whereas in actual fact this is not the case.

The breadth of the orbits shows greater divergences than any other measurement. In the case of the left orbit the difference between the Mediæval and the modern bones is nearly seven times its probable error; in the right orbit it is over nine times its probable error. It is difficult to suppose that such a divergence should be without significance. It is not clear, however, what changes have taken place since Neolithic times, although the earlier orbits tend to be rather broader. There is no difference in the orbital height among the more recent bones, though the early bones seem to be not quite so high. The orbital indices are probably of great importance. The difference between the Neolithic and the modern indices amounts to eight units, the modern index being the greater. Parsons[1] has argued that a microsemic orbit is especially characteristic of Neolithic man, an outcome, as Thomson has shown, of powerful jaw development. In spite of the fewness of our numbers, the Neolithic material from Hal Saflieni indicates that Parsons' generalization is applicable to Malta, and that the introduction of a change to Armenoid characteristics has considerably affected the form of the orbit.

The difference between the left and right orbits is striking in our two larger series. In the case of the Mediæval bones the difference in the orbital breadth is ·52 with a probable error of ·085, a difference that is certainly significant. In the modern series the difference is actually greater, but owing to the smallness of the numbers the probable errors are too great to make this significant.

The comparative variation of the Mediæval and the modern crania is a matter of considerable importance. Unfortunately the number of earlier skulls is too few for statistical treatment, but the results of a comparison of modern crania with

[1] Professor Parsons has been good enough to discuss the matter with me personally.

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those from the Mediæval hospital certainly suggest that those authorities who maintain that the hospital probably contained, amongst others, the bones of people from Western Europe are possibly in error. We should in that case have expected to find a high degree of variation. We do not do so. It may well be argued that the modern crania are too few to base any satisfactory arguments on, and we fully admit that it is unwise to argue from a series that never exceeds 42, and in some cases falls as low as 29. It would appear, however, that the modern series, of the majority of which the provenance was fairly exactly known, is consistently more variable than the Mediæval series from the Chapel of Bones. It would certainly be worth while to make a series of measurements on about 100 modern crania to see whether this statement really represents the truth.

Except in a few cases, it was impossible to associate mandibles with the crania to which they belonged, and unfortunately at the time when measurements were made on modern crania few mandibles could be discovered. The only series, therefore, of mandibles which could be treated statistically are those Mediæval specimen from the Chapel of Bones. Even in this case it was not found possible to get a series as large as 300 for every measurement. The majority of these, and probably all, are male; any doubtful cases having been rejected. The Neolithic and Romano-British mandibles are also probably male. The Bronze Age mandibles appeared from the associated bones to be female, but the condition of the latter was such that a definite opinion could not be expressed. In general terms there are certain marked differences between the mandibles from Hal Saflieni and elsewhere, whereas the Romano-Maltese and the Mediæval mandibles, although differing in detail, present a general similarity. The coronoid height and the condyloid height of the Neolithic mandibles are both lower, the ramus being of about the same breadth. The condylo-symphysial breadth is about the same. The Mediæval mandibles have a slightly lower ascending ramus than the Romano-Maltese, but the former are slightly more stoutly built; the mandibular index is quite possibly about the same. Generalizing, we may say that the Neolithic mandibles belong to a type with a rather short, broad ascending ramus, and a shallow sigmoid notch, whereas the Mediæval mandibles have the higher ascending ramus and the deeper sigmoid notch which are usually associated with various branches of the Alpine race.

A collection of teeth was made from the bone heaps at Hal Saflieni.[1] Unfortunately no teeth of more recent date are available. Out of a total of 224 adult teeth from Hal Saflieni (Malta Local Neolithic), 15 upper incisors and canines showed a marked edge-to-edge bite. Caries occurred in 19 cases; there was a complete erosion of the roots in 2. One incisor had two roots. Speaking generally, the teeth

[1] I am indebted to my brother, Mr. J. L. Dudley Buxton, for examining and reporting on these teeth from the point of view of a dental surgeon.

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172 164 did not differ from a chance collection of modern civilized teeth, except that caries was less common.

Teeth from Hypogæum, Hal Saflieni (Malta Local Neolithic).

	1 Normal Teeth.	2 Carious Teeth.	3 Teeth showing Marked Attrition of Edge-to-edge Form.	4 Teeth showing Marked Attrition.	5 Total Adult Teeth.	6 Deciduous Teeth.
Molars	21	10	—	18	48	3
Premolars	26	6	—	36	62	—
Canines	9	—	7	15	31	2
Upper incisors ...	23	1	8	23	54	—
Lower incisors ...	2	2	—	27	29	—
Total ...	81	19	15	119	224	5

Teeth included in Column 2 may also be included in Columns 3 or 4; Columns 3 and 4 are mutually exclusive.

141 172 Summing up, the general characters of the Maltese skulls at our disposal, the physical type conveniently termed "Malta first race" is associated culturally with the Malta Local Neolithic. Skulls of this type are long, narrow, and slightly built. They have low orbits, narrow zygomatic arches, and a jaw which, though often not absolutely large, has a low ascending ramus, a shallow sigmoid, and considerable breadth in the antero-posterior diameter. They appear to be representatives of the Mediterranean race.

The skulls of succeeding periods, conveniently termed "Malta second race," and associated with numerous cultural periods, are, as a general rule, shorter, broader, more stoutly built, larger, and have higher orbits. The ascending ramus of the jaw is high, and the antero-posterior diameter is small. Although among a large collection of these crania single specimens exhibit the characteristics of the Mediterranean type, and some even occur with features which are usually considered to be typical of the Nordic race, the majority, in addition to the features already mentioned, show that peculiar contour in the occipital region which is usually associated with the type called by Von Luschan "Armenoid."

Living Material.

141 Apart from those questions which have already been discussed when dealing with the general anthropology of Malta, special problems are connected with the living. In the first place, the sex and birthplace are definitely known, and the age, at least approximately. Secondly, the numbers are usually greater. Thirdly,

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man, are also unusually fertile, and the females possess remarkably developed udders. Possibly similar causes make both man and the goats fertile. If this is so, emigrants from the island will probably, after a short time, lose their fertility,[1] whilst the only limiting factors on the island itself will be space and the food and water supply.

Summarizing our general conclusions, the race in Malta which is associated with the period of great megalithic buildings—a cultural stage we have termed "Malta Local Neolithic"—appears to be closely akin to the Mediterranean race. This is our "Malta first race." At a later date, possibly towards the end of the Bronze Age, but more probably during the Early Iron Age, Malta was peopled by a race with different characteristics, our "Malta second race." These people are of Armenoid type, but probably have an admixture of Mediterranean blood. Their origin appears to be the Eastern Mediterranean. They may have come to Malta either directly or by way of Carthage. They may have destroyed the previous inhabitants, or they may merely have pursued methods of peaceful penetration. This race has firmly established itself in Malta, and all subsequent introduction of foreign blood has failed to raise the variation. During the course of years certain changes have taken place; there are also certain local variations, but the differences between Malta and Gozo are not greater than the differences between the general population of Malta and at least one, and possibly more, of the more isolated villages.

APPENDIX I.

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[1] Of interest in this connection is the fact that there is at present a Maltese colony in Detroit, U.S.A., and it will be instructive to observe whether, amid alien surroundings, the strain is able to perpetuate itself and to retain its fertility.

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TABLE I.—SKULL MEASUREMENTS.

Character.	Malta Local Neolithic, Hypogæum, Hal Saflieni. ♂ No.	Mean.	Romano-Maltese. ♂ No.	Mean.	♀ No.	Mean.	Mediæval, Chapel of Bones. ♂ No.	Mean.	σ	V.
O.O.L.	9	186·38	18	183·33	4	172·97	466	178·20 ±0·20	6·39 ±0·14	3·59 ±0·08
G.O.L.	9	188·34	18	186·08	4	173·25	467	180·54 ±0·20	6·34 ±0·14	3·51 ±0·11
G.B.	10	133·45	18	139·53	5	139·80	468	139·04 ±0·15	4·77 ±0·11	3·43 ±0·07
M.F.D.	9	97·06	18	96·14	5	94·00	467	96·56 ±0·16	5·00 ±0·11	5·18 ±0·11
Biz.B.	4	118·00	6	131·50	—	—	263	132·28 ±0·18	4·28 ±0·13	3·24 ±0·10
X.H.	7	49·29	18	50·78	4	46·50	461	52·08 ±0·08	2·51 ±0·06	4·82 ±0·11
X.B.	6	22·50	17	24·44	4	23·25	452	24·37 ±0·06	1·93 ±0·04	7·92 ±0·18
B.B.H.	4	133·67	18	134·31	1	130·00	461	135·62 ±0·16	4·97 ±0·11	3·66 ±0·08
B.X.I.	4	101·37	18	99·72	2	94·00	459	101·13 ±0·13	3·99 ±0·09	3·95 ±0·09
B.A.L.	4	95·12	17	95·30	—	—	392	96·27 ±0·15	4·42 ±0·11	4·59 ±0·11
U.F.H.	6	65·09	18	65·11	2	67·00	437	68·10 ±0·14	4·38 ±0·10	6·43 ±0·15
F.B.	6	86·67	11	92·81	3	91·00	420	94·62 ±0·18	5·51 ±0·13	5·82 ±0·14
O.B.L.	6	41·83	16	39·59	4	37·50	449	40·65 ±0·06	2·03 ±0·05	4·99 ±0·11
O.B.B.	6	41·25	15	39·80	3	36·77	458	41·17 ±0·06	2·05 ±0·05	4·98 ±0·11
O.H.L.	6	34·58	15	33·20	4	32·12	451	33·56 ±0·07	2·10 ±0·05	6·26 ±0·14
O.H.B.	6	31·67	14	32·85	3	30·38	456	33·34 ±0·07	2·12 ±0·05	6·36 ±0·14
P.L.	7	50·63	18	50·19	4	43·00	443	49·36 ±0·11	3·51 ±0·08	7·11 ±0·16
P.B.	8	32·25	16	36·75	3	34·66	447	36·19 ±0·10	3·14 ±0·07	8·66 ±0·20
C.I.	9	71·44	17	75·29	4	80·75	463	77·09 ±0·11	3·63 ±0·08	4·71 ±0·10
V.I.	4	71·24	16	72·25	—	—	461	75·17 ±0·11	3·52 ±0·08	4·68 ±0·09
U.F.I.	4	52·00	9	48·44	—	—	247	51·83 ±0·15	3·45 ±0·10	6·65 ±0·20
O.I.L.	6	76·00	15	83·67	—	—	451	82·27 ±0·19	5·95 ±0·13	7·23 ±0·16
O.I.B.	6	76·92	12	84·33	—	—	462	81·10 ±0·19	6·04 ±0·13	7·45 ±0·17
K.I.	6	47·17	17	48·18	4	50·25	448	46·94 ±0·13	4·14 ±0·09	8·82 ±0·20

3: Buxton D-5 (1920-1921) 1922 EZ6 Malta EZ6

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Table I.—Skull Measurements—*continued.*

Character.	Malta Local Neolithic, Hypogæum, Hal Saflieni. ♂ No.	Mean.	Bronze Age. ♂ No.	Mean.	Romano-Maltese. ♂ + ♀ No.	Mean.	Mediæval, Chapel of Bones. ♂ No.	Mean.	σ	V.
Cor.H.L.	11	50·32	2	54·50	7	60·00	317	67·19 ±0·23	5·94 ±0·16	8·85 ±0·24
Cor.H.R.							325	67·41 ±0·22	5·85 ±0·15	8·68 ±0·23
Con.H.L.	11	49·55	3	41·17	13	55·00	305	60·15 ±0·27	7·05 ±0·19	11·72 ±0·32
Con.H.R.							304	60·99 ±0·29	7·53 ±0·21	12·35 ±0·34
Sig.H.L.	13	42·65	3	36·83	10	47·75	340	49·51 ±0·21	5·62 ±0·15	11·35 ±0·30
Sig.H.R.							345	50·31 ±0·20	5·44 ±0·14	10·81 ±0·28
Symph.H.	7	30·07	5	28·10	11	30·09	334	30·30 ±0·14	3·74 ±0·10	12·34 ±0·33
Ramus R.	16	34·57	3	34·00	—	—	337	33·96 ±0·11	3·04 ±0·08	8·95 ±0·23
Ramus L.	2	103·75	—	—	9	101·44	345	33·73 ±0·11	3·10 ±0·08	9·20 ±0·24
Con.-Sym.L.	—	—	—	—	7	93·93	344	105·35 ±0·24	6·31 ±0·17	6·18 ±0·16
Bigon.B.	—	—	—	—	3	115·85	—	—	—	—
Bicond.B.	—	—	—	—	3	89·97	284	118·31 ±0·28	6·99 ±0·20	5·92 ±0·17
M.I.	—	—	—	—			283	88·96 ±0·28	6·91 ±0·20	7·76 ±0·22

3: Buxton D-5 (1920-1921) 1922 EZ6 Malta EZ6

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Table I.—Skull Measurements—*continued.*

Character.	Valletta Modern. ♂ No.	Mean.	σ	V.	Valletta Modern. ♀ No.	Mean.
O.O.L.	30	176·43 ±0·72	5·84 ±0·51	3·31 ±0·28	9	164·00
G.O.L.	41	178·61 ±0·57	5·39 ±0·40	3·02 ±0·23	12	166·54
G.B.	42	141·42 ±0·60	5·79 ±0·43	4·10 ±0·30	12	137·63
M.F.D.	42	96·76 ±0·50	4·84 ±0·36	5·00 ±0·37	12	92·92
Biz.B.	38	130·22 ±0·54	4·90 ±0·38	3·76 ±0·29	11	124·41
N.H.	42	51·68 ±0·38	3·62 ±0·27	7·00 ±0·52	11	48·14
N.B.	42	23·50 ±0·17	1·63 ±0·12	6·94 ±0·51	11	24·82
B.B.H.	41	133·50 ±0·65	6·17 ±0·46	4·63 ±0·35	12	124·42
B.N.L.	41	100·02 ±0·60	5·70 ±0·42	5·70 ±0·43	12	94·42
B.A.L.	41	94·59 ±0·52	4·92 ±0·37	5·20 ±0·39	11	89·68
U.F.H.	42	66·58 ±0·43	4·16 ±0·31	6·24 ±0·46	12	60·17
F.B.	41	92·74 ±0·49	4·61 ±0·34	4·97 ±0·37	12	89·75
O.R.L.	31	30·13 ±C·21	1·75 ±0·15	4·46 ±0·38	8	38·06
O.B.R.	29	38·47 ±0·28	2·26 ±0·20	5·88 ±0·52	8	38·06
O.H.L.	31	32·66 ±0·30	3·20 ±0·27	9·81 ±0·85	8	35·25
O.H.B.	30	32·42 ±0·37	3·04 ±0·26	9·38 ±0·82	8	33·25
P.L.	30	48·03 ±0·42	3·43 ±0·30	7·19 ±0·63	8	45·50
P.B.	30	35·23 ±0·33	2·67 ±0·23	7·59 ±0·66	6	37·68
C.I.	41	70·01 ±0·39	3·67 ±0·27	4·64 ±0·35	12	82·71
V.I.	40	74·55 ±0·36	3·36 ±0·25	4·51 ±0·34	12	75·06
U.F.I.	38	80·02 ±0·38	3·43 ±0·27	6·74 ±0·52	11	48·55
O.I.L.	31	83·80 ±0·75	7·52 ±0·64	8·96 ±0·77	8	91·25
O.I.B.	29	85·01 ±0·96	7·82 ±0·69	9·20 ±0·82	8	88·75
M.I.	42	48·62 ±0·38	3·67 ±0·27	6·03 ±0·60	11	81·64
Cor.H.L.	—	—	—	—	—	—
Cor.H.B. ...	—	—	—	—	—	—
Con.H.L. ...	—	—	—	—	—	—
Con.H.B. ...	—	—	—	—	—	—
Sig.H.L.	—	—	—	—	—	—
Sig.H.B.	—	—	—	—	—	—
Symph.H. ...	—	—	—	—	—	—
Ramus B. ...	—	—	—	—	—	—
Ramus L. ...	—	—	—	—	—	—
Con.-Sym.L. ...	—	—	—	—	—	—
Bigon.B.	—	—	—	—	—	—
Bicond.B. ...	—	—	—	—	—	—
M.I.	—	—	—	—	—	—

3: Buxton D-5 (1920-1921) 1922 EZ6 Malta EZ6

Table IV.—Significant Differences. Crania.

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Mediæval Chapel of Bones and Modern Valletta.

Character.	Means.		Variations.	
	Δ_{c-v}	$\frac{\Delta}{\epsilon_\Delta}$	$V_v - V_c$	$\frac{\Delta}{\epsilon_\Delta}$
O.O.L.	—	—	—	—
G.O.L.	1·93 ±0·63	3·06	—	—
G.B.	—	—	—	—
M.F.D.	—	—	—	—
Biz.B.	2·06 ±0·58	3·56	—	—
N.H.	—	—	2·18 ±0·53	4·10
N.B.	0·87 ±0·18	4·85	—	—
R.B.H.	2·12 ±0·45	6·69	—	—
B.N.	—	—	1·75 ±0·44	3·98
B.A.	1·68 ±0·54	3·10	—	—
U.F.H.	1·52 ±0·45	3·36	—	—
F.B.	1·88 ±0·52	3·60	—	—
O.B.L.	1·52 ±0·22	6·86	—	—
O.B.R.	2·70 ±0·29	9·43	—	—
O.H.L.	—	—	3·55 ±0·86	4·13
O.H.R.	—	—	3·02 ±0·83	3·63
P.L.	1·33 ±0·43	3·06	—	—
P.B.	—	—	—	—
C.I.	−1·92 ±0·41	4·73	—	—
V.I.	—	—	—	—
U.F.I.	—	—	—	—
O.I.L.	—	—	—	—
O.I.R.	—	—	—	—
N.I.	1·32 ±0·40	3·29	—	—

3: Buxton D-5 (1920-1921) 1922 E26 Malta E26

TABLE VI.—COEFFICIENTS OF CORRELATION.

Living ♂.

Character.	Malta.	Gozo.	Urban Districts.	Rural Districts.	Siggewe.	Zurrico.
G.O.L. and G.B.	0·325 ±0·025	0·405 ±0·063	0·215 ±0·042	0·319 ±0·048	0·450 ±0·059	0·217 ±0·069
U.F.H. and Biz.B.	0·135 ±0·028	0·308 ±0·068	0·205 ±0·043	0·176 ±0·052	0·175 ±0·073	0·197 ±0·069
T.F.H. and Biz.B.	0·321 ±0·026	0·287 ±0·071	0·344 ±0·039	0·370 ±0·047	0·164 ±0·073	0·288 ±0·066
N.H. and N.B.	0·111 ±0·028	0·199 ±0·071	0·065 ±0·044	0·065 ±0·054	0·193 ±0·073	0·136 ±0·071

Living ♀.

G.O.L. and G.B.	0·350 ±0·033	0·144 ±0·093	0·375 ±0·043	0·356 ±0·049	—	—
U.F.H. and Biz.B.	0·101 ±0·037	−0·057 ±0·094	0·064 ±0·050	−0·007 ±0·056	—	—
T.F.H. and Biz.B.	0·074 ±0·039	0·168 ±0·096	0·156 ±0·051	−0·130 ±0·057	—	—
N.H. and N.B.	0·021 ±0·037	0·131 ±0·093	0·164 ±0·049	−0·182 ±0·055	—	—

Skulls ♂.

Character.	Mediæval Chapel of Bones.	Modern Valletta.
G.O.L. and G.B.	0·079 ±0·031	0·173 ±0·102
H.L. and B.B.	0·149 ±0·031	0·366 ±0·092
U.F.H. and Biz.B.	0·183 ±0·042	0·163 ±0·106
O.B. & O.H.L.	0·189 ±0·031	0·410 ±0·091
O.B. and O.H.B.	0·154 ±0·031	0·344 ±0·111
N.H. and N.B.	0·107 ±0·032	0·653 ±0·060
C.S. and Bic.L.	0·178 ±0·039	—

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4: Cassar P-4, 5 (no date) 1964 EZ6 Malta EZ6

Medical Votive Offerings in the Maltese Islands

PAUL CASSAR

THE MALTESE GROUP OF ISLANDS—Malta, Gozo, Kemmuna, Kemmunet and Filfla—cover an area of just over 120 square miles. They form a stepping-stone between Europe and Africa, being fifty-eight miles distant from Sicily and 180 miles away from the North African shore. Malta and Gozo are renowned for the number of Stone Age temples they contain. Archaeologists have expressed the opinion that some of the enclosures of these temples were sacred to a healing deity (Zammit 1926, p. 53). This is suggested by the discovery of clay and limestone objects consisting of (1) two models of women lying asleep on a kind of stretcher of wicker work, and (2) several votive offerings in the shape of parts of the human body (Zammit & Singer 1924, pp. 75–6).

It is believed that the sleeping ladies represent devotees who went to the Hypogeum temple at Hal Saflieni, near Pawla, to consult the oracle through the practice of oneiromancy. This was a form of dream interpretation after the patient had been aroused from a hypnotic state induced deliberately by means of drugs or other means (Zammit 1935, p. 58). In ancient Egypt dreams were regarded with reverence and the faithful believed that their prayers were rewarded by the gods with an indication, in their dreams, of the remedies which their illness required (Wilkinson 1837, III, p. 394). Similar practices prevailed also in the temple-hospitals of classical Greece where the patient is said to have had the line of treatment revealed to him in his sleep (Pavey 1951, p. 59). It is, therefore, quite possible that such methods were likewise followed in Malta by the Hypogeum priests in the treatment of disease about 1500 B.C. Whatever might have happened in Malta in neolithic days, it is very striking to come across similar parallels in modern times where sick persons claim to have been healed by a heavenly power while in the sleeping state.

The following cases were recorded in 1890, the first being the most interesting as the patient fell asleep in the church itself:

(i) A woman had been subject to a purulent inflammation of the mouth for fifteen years. She had recourse to the Virgin Mary and while praying at Ta Pinu church (Gharb, Gozo) she was overtaken by extreme somnolence. She woke up with the conviction that the Madonna had granted her the desired favour; in fact, she recovered completely from her illness within three days.

(ii) Maria Cachia, from a village in Gozo, was so gravely ill from puerperal fever that it was decided to give her the Last Sacraments. Her mother made a vow to the Virgin Mary and annointed the patient on the forehead and breasts with oil obtained from the sanctuary lamp of Ta Pinu church. Maria fell into a calm sleep. Our Lady appeared to her in a vision, touched her on the parts smeared with the oil and healed her. On waking she was 'happy and smiling and left her bed completely cured'.

4: Cassar P-4,5 (no date) 1964 E26 Malta E26

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FIGURE 1

FIGURE 2

FIGURE 3

½ [Captions appear on p. 29. - Ed.] [facing P. 24]

4: Cassar P-4, 5 (no date) 1964 EZ6 Malta EZ6

(iii) Giovanna Debrincat had been suffering from depression with religious scruples for eight months. Her symptoms became acute one day in February with extreme anxiety, agitation, and insomnia. This phase lasted for four consecutive days and nights in spite of the efforts of the doctor and a priest to reassure her and placate her. Finally her relatives annointed her with the sanctuary oil and appealed to the Blessed Virgin to cure her. The patient immediately became tranquil and had a peaceful sleep. When she woke up, all her symptoms had disappeared (*Iddevot ta Maria*, 1890).

NEOLITHIC VOTIVE OFFERINGS

The custom of offering 'ex-votos' to the deity for favours received is not limited to the Maltese Islands and goes back to very remote times. The neolithic 'ex-votos' of Malta are made of clay and limestone, and measure from 1¼ to 3¼ inches in height. No less than fifteen of them, consisting of the following anatomical forms, have been found:

(i) Faces: 2.
(ii) Hand: 1.
(iii) Female torsos with large abdomen, pendulous breasts, and prominent genitalia: 4.
(iv) Kneeling female (?) torso with arms folded on breast: 2.
(v) Fragment of female statuette consisting of lower abdomen, both thighs, and right leg: 1.
(vi) Female body cut short in the neck and upper parts of the thighs; the left arm is bent on the nape of the neck and the right upper limb points to the genitalia which are very clearly shown. The abdomen and breasts are very full and a swelling fills the left groin while pieces of white shells are stuck in the armpits, groins, umbilicus, mons veneris, and other parts.
(vii) Female pelvis with upper parts of thighs and sexual triangle: 2.
(viii) Legs: 2 (Zammit & Singer 1924, p. 67).

The Roman occupation of Malta (218 B.C.–A.D. 397) is represented by one solitary 'ex-voto' consisting of a clay model of the lateral view of a leg and foot. It was found quite recently with other Roman objects in the north-west part of the island (Plate 1, Fig. 2). The inhabitants of the Maltese Islands were converted to Christianity by St Paul in A.D. 60. No more 'ex-votos' can be traced for many hundreds of years until they reappear in the eighteenth century under the influence of the Catholic Church. The interruption in the time-sequence and the change of religious beliefs do not, however, prevent us from perceiving that they have a common purpose and that the 'ex-votos' of Stone Age and Roman times foreshadow the similar ones of later years. Indeed the same ideational process links the ancient ones with those of our own times.

Anatomical 'ex-votos' are still preserved in many of the Catholic churches of Malta and Gozo and in several wayside shrines in the countryside and in niches in the towns. They are either figures of the complete human body or of parts of it. The former consist of the front view of babies with the trunk and limbs swathed in bands like a mummy; and of side views of men and women in a kneeling posture with their hands joined in prayer over their breasts or else holding a symbolical heart. The men are turned towards the left and the women look towards the right. The models representing parts of the

628 are alleged heavy drinkers[12]. The notion held in Gozo that a
186 man of Nadur claims to be more Maltese than Gozitan is held to point to the settlement of that village from Malta at some comparatively recent date[13].

621 Whatever the differences of size, settlement, economic
793 structure or tradition the functional basis of the Maltese
795 village remains pivoted on the Church and the Parish Priest, and a detailed discussion of the present scene becomes largely an attempt to assess the part now played vis-à-vis the Church by the new features and modifications of the old landscape in the present.

175 Here we may consider the history and growth of a young
361 Maltese village, MGARR, to show how this growing settlement has acquired the essential features common to rural society throughout the Islands (Map 5).

Until the nineteenth century, Malta north of the Victoria Lines had remained without any large settlements, partly on account of the vulnerability of the area to attack from the sea. This is not to say that there was no human activity in the area before 1800 for there is evidence of a small church [172] in what is now Mgarr as far back as 1500[14]. Evidence, too, of life in other eras is provided by the temple of Bu Hagrat (2,000 B.C.) and the remains of a Roman house near the village.

175 However, in the early part of the nineteenth century,
361 farmers from Mosta began to cultivate the land in what is now
793 the Parish of Mgarr. The account, of the history of one of
795 the families concerned in this settlement, given by Mitchell (R/525), is typical. The numbers involved in the general movement increased as the century advanced until, in 1898, an independent Parish was established. Before 1898, spiritual needs of the farmers were catered for by visiting priests from Żebbuġ, Balzan, Mdina and Mosta itself and the tiny Church of St. Mary was used throughout this period and until 1918. Earlier in the nineteenth century the colonization of Mgarr had been a 'week-day' venture with most farmers returning to their families and homes in Mosta for the week-end and the Sunday Mass. The visiting priests celebrated Sunday morning Mass for those farmers who began to settle in the area permanently. With the granting of parochial status in 1898, a
175 full-time Parish Priest was appointed who came from Mosta and
346 [793] settled in the growing village. The first concern was for a new Church and work was begun in 1912, although the population of the village at this time was only 1,067 (R/167-1911). [463] Significantly, both the master mason and the architect concerned were Mosta men. Building went ahead slowly on the

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

desperately to drive out the Knights of S. John as over forty years previously he had driven them out of Rhodes. But he was now concerned with a wider issue than that of blunting once more that spearhead of the Church militant: he had grasped the point that Malta as his advanced naval base would make him the master of the entire Mediterranean. Even more fully, and for a short time successfully, was the point grasped by Bonaparte, who saw in Malta not only the naval base indispensable to the command of the Mediterranean but a vital link in the route to a farther East than Phœnician or Roman had known. Thereafter neither William II nor the Axis dictators had anything fresh to learn on the subject. Malta's strategic rôle had become a postulate.

3

At the beginning of 1959 the Maltese archipelago had an estimated population, formidable for its size, of 323,629 souls (exclusive of the personnel of the armed Services), to which Gozo contributed 27,846 and little Comino 30. That is to say that it contains close on 2700 people to the square mile, which makes it one of the most densely populated geographical units in the world. The figure would have been higher but for considerable post-war emigration to Australia and elsewhere. But if, even so, it is high when measured by the area of 121 square miles[1] on which it has to live, it is small for a separate nation. For the Maltese are a nation unto themselves, with their own language, their own traditions, their own physical characteristics and a history that is one of the longest to which any existing people can lay claim.

For some reason hitherto unexplained it was in Malta and Gozo that the art of building in remote Stone Age days reached a development of skill and refinement unknown in other centres of the megalithic and neolithic worlds. Malta was already, therefore, an ancient centre of civilization when

[1] *I.e.*, about five-sixths of the area of the Isle of Wight.

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

the "tempestuous wind called Euroclydon" that still whistles across it during the winter months under its modern name of *gregale*, the "Greek wind," drove S. Paul on to its shores and brought it about that the "chief man" of the island, Publius, became its first Bishop. It was a centre of civilization, as well as a centre of the religious life of the Western Mediterranean, very much earlier, for Malta, in the words of the lamented Sir Themistocles Zammit, "was the holy island of neolithic faith, the half-way house of the early mariners, who trusted themselves to their frail wooden craft, full of hope in a protecting power."

Later, when we emerge from prehistory, we find the position reversed: Malta, instead of extending supernatural protection to peoples beyond its shores, comes under the political protection of others. During the many centuries of its recorded history Malta has had many rulers: the Phœnicians and their offspring, the Carthaginians, then Romans, Arabs, Normans, Angevins, Aragonese and Castilians, then for two and a half centuries the international Order of S. John of Jerusalem, and, finally, at the invitation of the Maltese people after a brief French occupation, the British. But despite the impact of such cosmopolitan influences this people has clung tenaciously to its ancient tongue, which is unquestionably of Semitic structure and has claims to descent from the speech of Dido and Hannibal.[1] It was, in fact, from a bilingual inscription in Phœnician and Greek found in Malta in 1697, of which more will be said in the following chapter, that the Phœnician alphabet was reconstructed. Of this inscription Dr A. V. Laferla writes in his *Story of Man in Malta*: "The construction and grammar . . . are identical with those of modern Maltese and many of the words (*lil, bin, tnejn, jisma, iberikom*) are still in use at the present day." S. Luke in the Acts describes the Maltese as "barbarians"—that is, as neither Greeks nor Romans—and

[1] The name Hannibal is still met with in Malta as a Christian name. Its Maltese diminutive is Nibbiu.

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

term by the numerous British Service men and women who have been stationed in or have passed through Malta, *sahha* has been admitted, in the form "saha," into the more recent editions of *The Concise Oxford Dictionary* as an English word for "good-bye," with due acknowledgment of its Maltese origin. And perhaps "saha" is but the forerunner of others; for in its issue of the 5th January 1945 the London *Spectator* had this to say on the etymology of the word "spitchered," which occurs in one of the war books on Malta:

> The word clearly derives from the Maltese *spiċċa*, meaning "finished" or something similar. Naval opinion agrees with Air Force opinion on that. But naval opinion claims credit for embodying the word in the English language. And as naval opinion can point to its use as long ago as 1903, the Air Force does seem to be grounded or, indeed, spitchered on this particular point.

4

In some parts of the Old World the visitor can select, according to his tastes, the century that he prefers. It is no exaggeration to say that in Malta he can choose the millennium and more than the millennium. If he is a palæontologist he may wander about the cave of Ghar Dalam and study *in situ* the remains of the elephants and hippopotami who left their bones there when the world was yet young, and of giant swans who sailed on lakes that have long since vanished. Advancing from these and from the Neanderthal Man, of whom traces may have been found in Malta, many thousands of years into the Stone Age, he will find in Malta and Gozo a series of megalithic and neolithic sanctuaries—Tarxien, the Hypogeum at Hal Saflieni, Ħaġiar Qim, Mnajdra, Ġgantija, to mention only the most important—unequalled in any other part of the world.

He will find other survivals of the Stone Age, of a different sort, in the cart-tracks which traverse many of the barren

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

rocky surfaces of the island, the tram-lines of neolithic man; and he will notice, if he is observant, that the dimensions of the flat two-wheeled carts which, with their gaily caparisoned little ponies or donkeys, are the traditional vehicle of the Maltese countryman of to-day correspond almost exactly with those of the carts of his neolithic predecessor, as deduced from the width of these ancient tracks. If he is interested in strange animals that still survive but must be a living link with hoary antiquity, he can study on the picturesque, uninhabited islet of Filfla, now used only as a target for gun practice, a remarkable lizard of the darkest green spotted with red (*Lacerta muralis* var. *filfolensis*), which occurs nowhere else in the world but on this tiny and diminishing spit of rock.

The dominant architectural notes of the Maltese Islands are megalithic and Baroque, and the gamut thus established can scarcely be called a narrow one. So far as works of art are concerned, the Museum in Valetta, housed before World War II in the Auberge d'Italie and since 1958 in that of Provence, contains a scientifically arranged exhibition of Stone Age culture unrivalled in any other country. This collection, whose most bizarre items are the astonishing fat female deities characteristic of Maltese neolithic sculpture, was organized in chronological sequence by the Museum's late learned Director, Sir Themistocles Zammit, who made a second international reputation in the field of Maltese archæology and excavation after having made an earlier one in medical research in connexion with undulant, or Malta, fever.

But the visitor is not obliged to study the activities of these remote peoples solely in museums. If he wishes to see how the distant forbears of the present population cultivated their land he has only to watch the Maltese farmer of to-day ploughing his field; if he is a student of cultural survivals he will note the eye of Osiris still painted on the bows of Malta's sturdy little schooners and characteristic "Gozo boats." If

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

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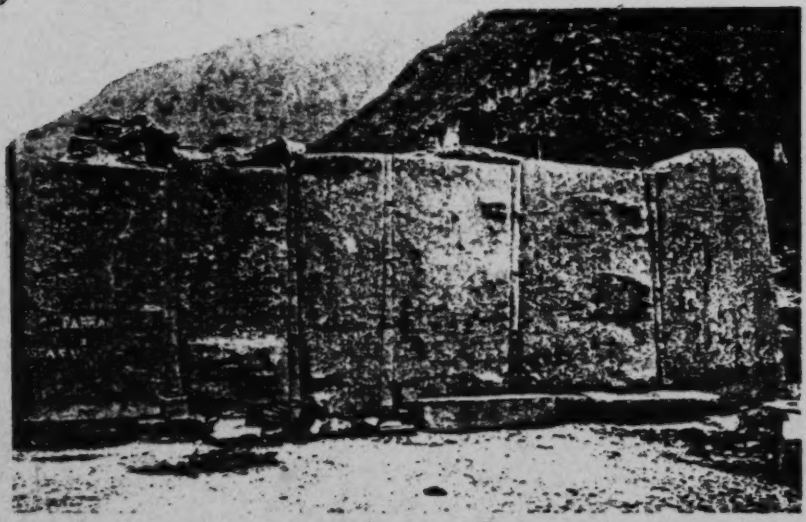
TARXIEN: MONOLITHS IN SECOND TEMPLE
[See p. 34]

MONOLITHS IN INCA CITADEL OF OLLANTAY-TAMPU, PERU



[Facing p. 48]

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

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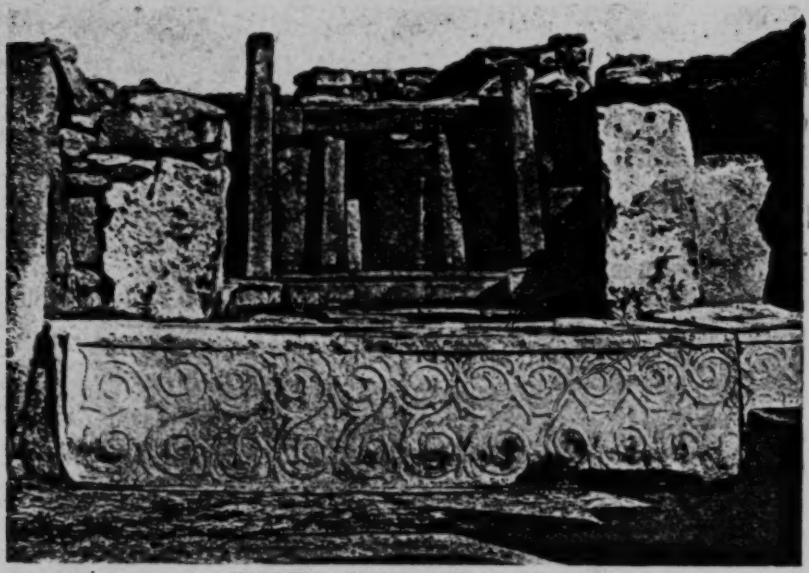

TARXIEN: FRIEZE AND AN ALTAR

[*See pp.* 33–35]

TEMPLE OF HAĠIAR QIM: MAIN APSE

Filfla in background.

[facing P. 49, (A)]

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

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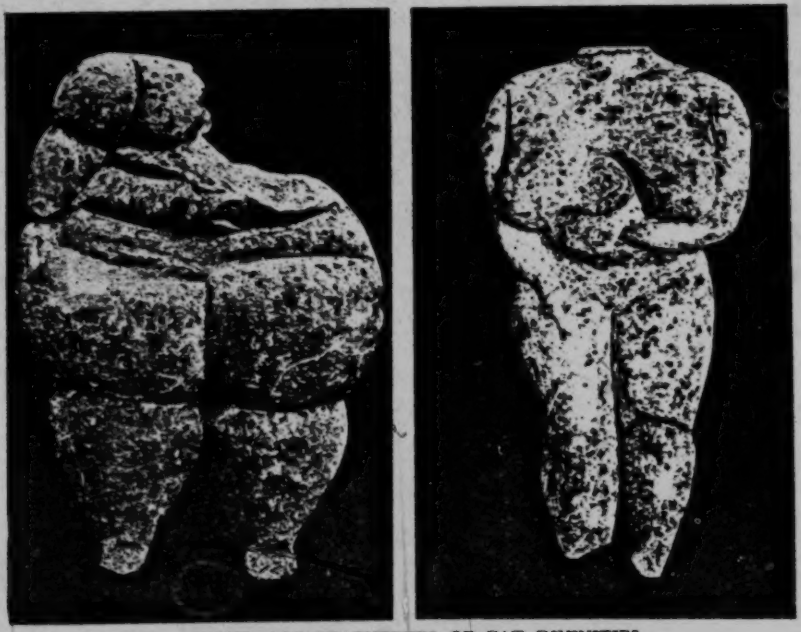

STONE AGE STATUETTES OF FAT DIVINITIES
The figure on the right is known as the "Venus of Malta."
[*See p.* 34.]

STONE AGE CART-TRACKS, SHOWING CROSS-ROADS AND JUNCTIONS
[*See pp.* 32–33.]

[facing P. 49, (B)]

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

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RECUMBENT FEMALE DEITY FROM THE HYPOGEUM

TWO DETACHABLE HEADS OF FAT DEITIES

FAT FEMALE DEITY FROM HAĠIAR QIM
[*See p.* 34.]

[facing P. 49, (C)]
[pp. 49-55 not processed]

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

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ROMAN INSCRIPTION RELATING TO THE *MUNICIPIUM* OF GOZO IN OUTER WALL OF CITADEL
[*See p.* 224.]

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CLIFFS OF TA ĊENĊ, GOZO
[*See p.* 230.]

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MAIMUNA'S TOMBSTONE
[*See p.* 224.]

[facing p. 209]

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6
Gozo

sometimes regarded in England—in other words, as hard-headed folk whom nothing will keep out of the best jobs. It is certainly true to say that, loth as they may be to leave their own little island, when they do it is definitely to better themselves. They make excellent colonists in Australia and elsewhere in the New World, while those who emigrate no farther than Malta frequently attain distinction. The story is told of a function in S. John's Co-Cathedral in Valetta at a time, not so many years ago, when the Gozitans who were leading personages in Church and State included the Archbishop of Malta, Mgr Pace.

"Well," said a Maltese worshipper, after watching the entry into the church of the procession of Archbishop and Canons and other dignitaries, mostly (or so it seemed to him) natives of the junior island, "I suppose we ought to be thankful that the sacristan is still a Maltese."

Byron may have had something similar in mind when he bracketed Malta with Gozo as

> Calypso's isles,
> The sister tenants of the middle deep,

instead of describing them as mother and daughter.

There is much to see in this small island of 27 square miles and as many thousand inhabitants besides natural scenery and the monuments alluded to above. Let me instance some characteristic features of various widely different epochs of Gozo's long history. First must come the twin Stone Age temples of Ggantija, through their cyclopean construction—one block has the formidable dimensions of 12½ by 17½ feet—the most stupendous work of Neolithic man in the Maltese archipelago. Farther excavation by the Malta Museum is planned on and around their site when funds permit, and more wonders may yet come to light. Meanwhile the visitor may enjoy from one of the most impressive architectural survivals of remote antiquity a comprehensive view of Gozo and of the north-western end of Malta, with

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6
GOZO

Comino between them separated from the islet of Cominotto by a channel of the palest green.

Traversing thousands of years, let us next notice a reminder of the rule of Rome in the Latin inscription embedded in the entrance to the citadel, dating from the time when Gozo was a separate *municipium* of the Roman republic. Now for a glimpse of Islam, a legacy of the two centuries—from 870 to 1090—when the Arabs were the lords of these islands. Between the villages of Xewkija and Sannat on the road now called Ta Maimuna was discovered about three hundred years ago a slab of marble bearing an Arabic inscription in Kufic characters. This slab was the tombstone of an Arab girl named Maimuna, and the inscription is not only a fine piece of lapidary work but a human document from which I quote without apology:

> "Ask thyself," cries Maimuna from the grave, "if there is anything everlasting, anything that can repel or cast a spell upon death.
>
> "Alas, death has robbed me of my short life; neither my piety nor my modesty could save me from him. I was industrious in my work, and all that I did is reckoned and remains.
>
> "Oh, thou who lookest upon this grave in which I am enclosed, dust has covered my eyelids and the corners of my eyes.
>
> "On my couch and in my abode there is nought but tears; and [what will happen] when my Creator comes to me?
>
> "Oh, brother, take. . . ."

And here little Maimuna's pathetic message comes to an abrupt end.

The passage of a few more centuries brings us to the spacious days of the Knights of S. John, the study of whose rule in Gozo may be facilitated by reference to the archives of the island's "University," for Gozo had, like Malta, its own "University" until the beginning of British rule.[1] It

[1] These archives were rescued from oblivion after the Second World War by the Commissioner of Gozo, Mr E. Montanaro, and are now preserved in the Commissioner's Office.